

CLAIM AMENDMENTS

Claims 1-244 (canceled)

245. (currently amended) A composition comprising a primary nucleic acid component, which upon introduction into a eukaryotic cell produces synthesizes a secondary nucleic acid component which produces synthesizes a nucleic acid gene product, or a tertiary nucleic acid component, or both, in said eukaryotic cell, wherein said primary nucleic acid component is not obtained with said secondary or tertiary nucleic acid component or said nucleic acid gene product.

Claims 246-247 (canceled)

248. (currently amended) The composition of claim 245, wherein said primary nucleic acid component is single-stranded, double-stranded or partially double-stranded.

249. (currently amended) The composition of claim 245, wherein said primary nucleic acid component is selected from the group consisting of DNA, RNA and nucleic acid analogs, and a combination thereof.

250. (previously presented) The composition of claim 249, wherein said DNA, RNA or both are modified.

251. (currently amended) The composition of claim 245, wherein said secondary nucleic acid component or said tertiary nucleic acid component is

selected from the group consisting of DNA, RNA, a DNA-RNA hybrid, a DNA-RNA chimera and a combination of the foregoing.

252. (previously presented) The composition of claim 245, further comprising a signal processing sequence.

253. (previously presented) The composition of claim 252, wherein said signal processing sequence is selected from the group consisting of a promoter, an initiator, a terminator, an intron, a cellular localization element and a combination of the foregoing.

254. (currently amended) The composition of claim 252, wherein said signal processing sequence is contained in an element selected from the group consisting of said primary nucleic acid component, said secondary nucleic acid component, ~~said nucleic acid gene~~ product, said tertiary nucleic acid component and a combination of the foregoing.

255. (currently amended) The composition of claim 245, wherein ~~said nucleic acid gene~~ product is single-stranded.

256. (currently amended) The composition of claim 245, wherein ~~said nucleic acid gene~~ product is selected from the group consisting of antisense RNA, antisense DNA, a ribozyme, a protein binding nucleic acid sequence and a combination of the foregoing ~~sense or antisense nucleic acid~~.

Claims 257-259 (canceled)

260. (previously presented) A eukaryotic cell containing the composition of claim 245.

Claims 261 (canceled)

262. (previously presented) The cell of claim 260, wherein said composition has been introduced *ex vivo* into said cell.

Claim 263 (canceled)

264. (currently amended) A secondary or tertiary nucleic acid ~~component or nucleic acid~~ gene product produced from the composition of claim 245.

265. (currently amended) A composition of matter comprising a nucleic acid component which when present in a cell produces a ~~non-natural nucleic acid~~ gene product from an snRNA promoter, which gene product comprises (i) a nuclear localization sequence comprising a portion of snRNA, said portion of snRNA comprising sequences for at least two stem loops present at the 3' end of native snRNA, and a reimportation signal and (ii) ~~a nucleic acid sequence of interest~~ an antisense or sense nucleic acid.

Claims 266 and 267 (canceled)

268. (currently amended) The composition of claim 265, wherein said ~~nucleic acid sequence~~ sense or antisense nucleic acid of interest (ii) is selected from the group consisting of DNA, RNA, a DNA-RNA hybrid, a DNA-RNA chimera, and a combination of the foregoing.

Claims 269 (canceled)

270. (previously presented) The composition of claim 265, wherein said nuclear localized sequence comprises a portion of U1 RNA comprising C and D loops.

Claim 271 (canceled)

272. (currently amended) The composition of claim 265, wherein said ~~non-natural nucleic-acid~~~~gene~~ product is single-stranded.

Claims 273-283 (canceled)

284. (previously presented) A cell containing the composition of claim 265.

Claim 285 (canceled)

286. (previously presented) The cell of claim 284, wherein said composition has been introduced *ex vivo* into said cell.

287. (previously presented) The cell of claim 284, wherein said composition has been introduced *in vivo* into said cell.

288. (previously presented) A biological system containing the cell of claim 284.

289. (previously presented) The biological system of claim 288, wherein said system is selected from the group consisting of an organism, an organ, a tissue, a culture and a combination thereof.

290. (currently amended) A process for localizing a ~~nucleic-acid~~~~gene~~ product in a eukaryotic cell, comprising:

- (a) providing the composition of claim 265 and
- (b) introducing said composition into said cell ~~or into a biological system containing said cell.~~

Claims 291-295 (canceled)

296. (previously presented) The process of claim 290, wherein the composition comprises U1 or U2 or both.

297. (previously presented) The process of claim 290, wherein said composition is introduced *ex vivo* into said cell or into a biological system containing said cell.

298. (previously presented) The process of claim 290, wherein said composition is introduced *in vivo* into said cell or into a biological system containing said cell.

299. (currently amended) A nucleic acid component which upon introduction into a eukaryotic cell produces more than one specific nucleic acid sequence, each such specific sequence nucleic acid so produced being substantially nonhomologous with each other and being either complementary with a specific portion of one or more single-stranded nucleic acids of interest messenger RNA targets in a cell or binds to a specific protein of interest in a cell.

Claims 300-302 canceled

303.(currently amended) The nucleic acid component of claim 299, wherein said nucleic acid is selected from DNA, RNA, nucleic acid analogs and a combination thereof.

304.(currently amended) The nucleic acid component of claim 303, wherein said DNA or RNA is modified.

305. (currently amended) The nucleic acid ~~component~~ of claim 299, comprising either more than one promoter or more than one initiator, or both.

306. (currently amended) The nucleic acid ~~component~~ of claim 299, wherein each said specific nucleic acid sequence ~~product~~ is produced independently from either different promoters, different initiators, or a combination of both.

307. (currently amended) The nucleic acid ~~component~~ of claim 299, wherein said specific nucleic acid sequence ~~products~~ are is either complementary to a viral or cellular RNA, or bind to a viral or cellular protein, or a combination of the foregoing

308. (currently amended) The nucleic acid ~~component~~ of claim 307, wherein said complementary specific nucleic acid sequence products act as antisense.

309. (currently amended) The nucleic acid ~~component~~ of claim 307, wherein said cellular protein comprises a localizing protein or a decoy protein.

310. (currently amended) The nucleic acid ~~component~~ of claim 309, wherein said localizing protein comprises a nuclear localizing protein or a cytoplasmic localizing protein.

311. (currently amended) The nucleic acid ~~component~~ of claim 309, wherein said decoy protein binds a protein required for viral assembly or viral replication.

312. (currently amended) The nucleic acid ~~component~~ of claim 299, wherein said specific ~~nucleic acid sequence~~ nucleic acid products are selected from

antisense RNA, antisense DNA, a ribozyme, a protein binding nucleic acid sequence, and a combination of the foregoing.

313. (currently amended) The nucleic acid ~~component~~ of claim 299, further comprising a means for delivering said ~~component~~ nucleic acid to a cell containing the ~~nucleic acid of interest~~ gene or the specific protein of interest.

Claims 314-316 (canceled)

317. (previously presented) The composition of claim 245, wherein said secondary nucleic acid is DNA and said tertiary nucleic acid is RNA.

318. (withdrawn) A process for introducing a ~~nucleic acid~~ gene product into a cell comprising

- (a) providing the composition of claim 245 and
- (b) administering said composition.

319. (withdrawn) The method according to claim 318 wherein said composition is administered *ex vivo*.

320. (withdrawn) The method according to claim 318, wherein said composition is administered *in vivo*.

321. (withdrawn) A process for introducing a plurality of nucleic acid sequences into a cell comprising:

- (a) providing the nucleic acid ~~component~~ of claim 299 and
- (b) administering said ~~component~~ nucleic acid.

322. (withdrawn) The method according to claim 321, wherein said component is administered *ex vivo*.

323. (withdrawn) The method according to claim 318, wherein said component is administered *in vivo*.